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"Recognizing Your Images"

August 27, 2005

Rosario, Dennis
United States Patents and Trademark Office
Commissioner For Patents
P. O. Box 1450
Alexandria, Virginia 22313-1450

Application NO. 10/078,299
Name of Applicant: Ying Liu
Name of Examiner: Rosario, Dennis
Date of Interview: 7-20-2005
Type of Interview: Telephonic
Name of Participants: Dennis Rosario (examiner), Ying Liu (applicant)
Exhibit: NA
Specific Prior Art: NA
Agreement: Extension can be made with a fee
Signature of the examiner: Attached.

Dear Dennis Rosario:

This is to certify that the substitute specification does not contain new matter.

Thanks again for your help.

With Kindest Regards,

Ying Liu, Ph.D.

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Dear Dennis,

The following is the itemized answer to your request:

1. Drawing

- 1.a. "The classification process" drawing is added as new sheet, Figure 7.
- 1.b. "The batch process" drawing is added as new sheet, Figure 8.
- 1.c. "The ABM and APN algorithms" drawing is added as new sheet, Figure 9.
Neural Net Example: Figure 10.
Markov chain Example: Figure 11.

- 1.d. "The More detailed ABM algorithms" drawing. (Figure 12)
ABN Net Example, Figure 10.
Input vector: explained in TECHNICAL BACKGROUND section.
Add Step 3 Explanation.
Add Step 4 Explanation, which defers it to Figure 16.
Add Step 5 Explanation, also explained in TECHNICAL BACKGROUND section.

Classification via invariant distribution function: explained in TECHNICAL BACKGROUND section.

Doublet and triplet: defined in TECHNICAL BACKGROUND section.

1.e "The More detailed APN algorithms" drawing. (Figure 13)

1. APN Net Example, Figure 10.

2. Input vector: explained in TECHNICAL BACKGROUND section.

3. Add Step 3 Explanation.

4. Add Step 4 Explanation, which defers it to Figure 17.

5. Add Step 5 Explanation.

6. Add Step 6 Explanation

7. Add Step 7 Explanation, also explained in TECHNICAL BACKGROUND section

8. Classification via invariant distribution function: explained in TECHNICAL BACKGROUND section.

9. Add Step 9 Explanation.

10. Doublet and triplet: defined in TECHNICAL BACKGROUND section.

1.f "Sensitivity" drawing (Figure 14)

1.g "Blurring" drawing (Figure 15)

1.h "The ABM Training algorithms" drawing. (Figure 16)

1. ABN Net Example, Figure 10.

2. Input vector: explained in TECHNICAL BACKGROUND section.

3. Add Step 3 Explanation.

4. Add Step 4 Explanation.

5. Add Step 5 Explanation, also explained in TECHNICAL BACKGROUND section.

6. Add Step 6 Explanation.

7. From Neural Net to Markov chain: explained in TECHNICAL BACKGROUND section.

1.i "The APN Training algorithms" drawing: combined into "The ABM Training algorithms" in Figure 16.

1.j "The ABM Recognition algorithms" drawing. (Figure 17)

1.k "The APN Recognition algorithms" drawing. (Figure 18)

Comparisons among an ABM net, an image, the input-vector, the first connection vector, the first connection value, the rest of the connection vectors, and the rest of the connection values. See example right after the ABM Training algorithm.

2. Drawing Instruction

Amended Replacement Drawing Sheets: 0

Canceled Drawing Sheets: 0

New Drawing Sheets: 12 (Figure 7 – Figure 18)

3. Drawing Service

4. Abstract

Correction made.

5. Disclosure

- a. pp.17, "computers", Correction made.
- b. pp.20, "The a", the whole paragraph is replaced.
- c. pp.20, "point", the whole paragraph is replaced.
- d. pp.21, "The ...", the whole paragraph is replaced.

- e. pp.22, "no limit ...", Correction made.
- f. pp.22, "Integration all", Correction made.
- g. pp.22, "1", Correction made.

- h. pp.24, "use...", Correction made.
- i. pp.25, "The connection ...", the whole paragraph is replaced.

6. Incomprehensible

- 6a. Page 4, 1:1 → 1-to-1, 1:N → 1-to-many, ...
Page 8, 1:1, 1:N, N:1, and N:N are defined.

- 6b. Page 20, "key...image" is rewritten.

- 6c. Page 21, Small set around an image: text replaced.

- 6d. Page 21, Blurring is the maximum distance: text replaced.

- 6e. Shape Cut and distance in image space: TECHNICAL BACKGROUD section is added to define the image space and the distances in the image space. The contents of the TECHNICAL BACKGROUD section are well known and are not a part of this invention.

- 6f. Breaking down: Explanations added, examples used.

- 6g. Enrollment rate: Explanations added, examples used.

- 6h. Parameter: corrections are made.

7. Hyperlink

We could not locate any hyperlinks in the disclosure.

8. Substitute specification

- a. No new materials are added (Substitute specifications contains only explanations and examples).
- b. New text are placed right before old text.
- c. New text must be underlined.
- d. Deleted text must be strike through.
- e. Deleted subject in double brackets.
- f. A clean version is supplied.
- g. A statement the clean version contains no new materials.

9. Registered Patent Attorney

10. Claims

- a. Parentheses are eliminated.
- b. Quotations are eliminated.
- c. Claim 9 and 10, "such as Microsoft Internet Explorer" deleted.
- d. Claim 9 and 10, "web page" deleted.
- e. Claim 28, "images" amended to "image".
- f. Claims 3, 5, 6, 7, 8, 23, 24, 25, 26, and 27 are reduced to one sentence.

11. 37 CFR § 1.75 (a)

12. Claim 19 Objection: Claim 19 is deleted.

13. 35 U. S. C. 112

14 Rejections

Claim 1: "... training by one click ..." is changed to "... training by clicking a button in ..."

Claim 3: "... training by one click ..." is changed to "... training by clicking a button in ..."

Claim 8: Deleted.

Claim 9 and 10: Modified.

Claim 14 and 23: New drawing is added to describe "Sensitivity" without introducing new materials.

Claim 15 and 24: New drawing is added to describe "Blurring" without introducing new materials.

Claim 20: New drawings are added to describe "ABM Algorithm" without introducing new materials.

Claim 21: New drawings are added to describe "APN Algorithm" without introducing new materials.

Claim 23: New drawing is added to describe "Sensitivity" without introducing new materials.

Claim 26: New explanation is added to describe "Connection Space" without introducing new materials.

Claim 27: New explanation is added to describe "binary neural net to a multi-valued neural net" without introducing new materials.

Claim 28: New drawing is added to describe "Classification" without introducing new materials.

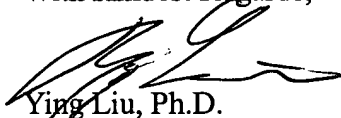
15. Suggested Drawing

- a) "The Classification process" drawing: Figure 7.
- b) "The Batch Process" drawing Figure 8.
- c) "The basic ABM and APN Algorithm" drawing, Figure 9, Figure 10, Figure 11.
- d) "The More Detailed ABM Algorithm" drawing, Figure 12.
- e) "The More Detailed APN Algorithm" drawing, Figure 13.
- f) "Sensitivity" drawing, Figure 14.
- g) "The Blurring" drawing, Figure 15.
- h). "The ABM Learning Algorithm" drawing, Figure 16.
- i). "The APN Learning Algorithm" drawing, same as Figure 16.
- j) "The ABM Recognition Algorithm" drawing, Figure 17.
- k) "The APN Recognition Algorithm" drawing, Figure 18.

16. Inquiry

Thanks again for your help.

With Kindest Regards,



Ying Liu, Ph.D.

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